Notes on Collecting Coleoptera in Wyoming and Utah.

By W. Knaus, McPherson, Kansas.

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My next stop was at Medicine Bow, fifty miles northwest of Laramie. This station was my closest railway point to the old station of Aurora, on the edge of Lake Como, where I wished to look for *Cicindela willistoni* Lec. From Lookout to Medicine Bow the old railway line was abandoned and taken up, and one must walk back east eight miles from Medicine Bow to reach Lake Como, situated in a small mountain basin. In the eight miles walk you do not see a single habited house, but at Lake Como is the Berry ranch, near the abandoned station site. A brisk walk from Medicine Bow, Sunday morning, June 23rd, with a few stops to look for insects under the old ties along the dismantled road-bed, brought me about eleven o'clock to the southwest point of the mountain lake, covering something near one hundred and sixty acres. On the maps the lake is nameless, but is known locally as Lake Como. The water is charged with alkali and has a soapy appearance. From the old road-bed a small rivulet leads into the lake some seventy-five yards away, and the alkali wash towards the lake is either bare of vegetation or scantily covered. On this alkali soil near the edge of the lake, S. W. Williston, the latter part of June, 1877, while hunting fossils in the adjacent mountains for Yale College, accidentally found a species of Cicindelidæ that was undescribed. Dr. Leconte described the species as *willistoni*, naming it for the discoverer. Some fifty or sixty specimens were taken by Prof. Williston, and up to this year, with the possible exception of a dozen specimens, this has remained a record of the catch of this species.

On my arrival at the lake I was not long in locating its haunts, and soon had my first specimen in the cyanide bottle. Collecting was good until 3.30 P.M., when the lateness of the hour and the continued use of my net had reduced the numbers visible to an occasional specimen. I found they occurred only over a small area of bare or scantily reed-covered white alkali soil,

fifteen feet wide by one hundred feet long, and about six to ten feet back from the waters' edge. I went over the ground carefully along the lake for over a quarter of a mile, but found only a single specimen. They would not stay on the red soil, or on soil covered with grass or other vegetation. The movements of this species are different from any that have come under my observation. They run rather clumsily, are slow on the wing, and rarely fly further than ten or twelve feet; often only six or eight feet. When the net is thrown over them they seldom fly up into the net, but almost always remain on the ground, often not moving until picked up. As they were not copulating, I inferred that the middle of their season was about June 10th, extending from say, May 10th to July 10th. No other species was seen in this locality, which has an elevation of about six thousand seven hundred and fifty feet. *Willistoni* is assigned in Henshaw's list as a variety of *fulgida*, but from my observations on their habits and a comparison of the species themselves, I have no hesitation in pronouncing it a distinct and valid species.

Other species taken at Lake Como were, *Bembidium insulatum* Lec., and *ephippiger* Lec., a species of *Pterostichus*, a species of *Harpalus* and four specimens of a handsome *Elcodes* apparently undescribed.

At Medicine Bow, collecting by beating willows, wild roses, and turning over old ties, yielded *Harpalus ellipsis*, Lec., a Staphilinid, *Leptacinus* sp., a Nitidulid, *Meligethes mutatus* Harr. in numbers; *Agrilus politus* Say, also in numbers; also a *Hydnocera subfasciatus* Lec., numbers of *Aphodius vittatus* Lec., a species of *Bruchus*, probably *paupereulus* Lec., a *Tenebrionid*, *Helops difficilis* Horn, two fine specimens of Curculionids, *Nochelus æqualis* Horn, and *Lixus rubellis* Rand. *Anthonomus confusus* Dietz was also taken here.

A day at Ogden, Utah, July 24th, allowed but a single hour's collecting at the Hermitage, Ogden Canyon, six miles from the city. Here I found under stones at the water's edge *Nebria obliqua* Lec. at an altitude of over five thousand feet. Under the same conditions I took *Bembidium rcticollis* Lec., *planatum* Lec. and *transversale* Dej.; *Platynus fossiger* Dej., and *P. de-*

corus Say. Under stones along the canyon stream were also found *Philonthus furvus* Nord., *basalis* Horn and *Dianus nitidulus* Lec. Two specimens of the Cerambycid, *Leptura crysocoma* Kirby were beaten from alder bushes, together with a species of *Pachybrachys*. From the same bushes were beaten *Pentaria trifasciata* Melsh. and *Anthicus stellatus* Csy.

Lagoon is a summer resort sixteen miles north of Salt Lake City. It is situated at the foot of Wasatch Mountains and three miles east of the lake. I collected there, June 25th, going west from Lagoon to the Lake. The wind was strong from the west and the temperature below sixty degrees, so catches were not very numerous. However, I found one specimen of *Calosoma tepidum* Lec. and the mutilated remains of another. Around the margins of salt ponds were found *Bembidium* in considerable numbers. I took *bifossulatum*, Lec., *insulatum*, Lec. and *approximatum* Lec. *Brachynus cordicollis* Dej. and *Chlænius pennsylvanicus* Say were found under railway ties. A species of *Colambus* (*lutescens* Lec.) was taken in a fresh water pond. *Aphodius vittatus* Say occurred under cow chips, together with numbers of *Metachroma californica* Cr. *Phyllotreta lewisi* Cr. were beaten from flowering plants, together with an *Oxacis bicolor* Lec. *Nemognatha bicolor* Lec. were found in thistle heads. The only two species of *Curculio* taken were *Copturus adspersus* Lec. and a single specimen of *Rhodobænus 13-punctatus* Ill.

Coming down into the Salt Lake valley from the northeast is City Creek Canyon. City Creek dashes over the rocks at the bottom of this canyon and is fed by springs and the melting snows of the higher peaks of the Wasatch range. The canyon is wooded and has a varied and abundant insect fauna, constantly changing with the elevation. I spent three or four hours in this canyon June 28th, in company with my friend, G. W. Browning, a native of Salt Lake City, an enthusiastic lepidopterist and an artist of no mean ability. This canyon is his favorite collecting ground for Lepidoptera and he is familiar with its every curve and physical feature for miles. As in Ogden Canyon, *Philonthus furvus* Nord. was the commonest Staphylinid, occurring under stones at the edge of the stream.

Phalacrus simplex Lec. was taken by beating shrubbery. The Coccinellidiæ were well represented. *Coccinella 9-notata* Hbst., *transversalis* Melsh., *sanguinea* Linn. and *Brachycantha dentipes* Fab., were common. Of the *Histers* only one species was found, *Saprinus lubricus* Lec. Of *Nitidulids*, two specimens of *Cercus pennatus* Murr. and numbers of *Meligethes mutatus* Harr. were found on thistle heads and other flowering plants.

The common *Elater*, *Dolopius lateralis* Esch., was taken, and a single specimen of a *Corymbites* very near *hieroglyphicus*. *Acmæodera variegata* Lec. was the common *Buprestid* on thistle heads and other flowers. *Ellychnia californica* Mots. and *Podobrus tomentosus* Say were taken by beating. *Collops insulatus* Lec. and *Trichochrous seriellus* Csy. were found abundantly on thistle heads. *Trichodes ornatus* Say is not uncommon, feeding on flowers. *Aphodius granarius* Linn. was fairly common, but only a single specimen of *Toxotus vestitus* Hald. was taken on flowers. Of the *Chrysomelidæ*, *Coscinoptera axillaris* Lec. *Saxinis saucia* Lec., *Lina scripta* Fab., *Disonycha collaris* Fab. and *Luperodes morrisoni* Csy. were easily taken by beating. Of *Cryptocephalus 4-maculata* Say, *Diachus auratus*, Fab., *Scelolyperus longulus* Lec. and *Haltica tombacina* Mann, but a single specimen of each was found. Of the *Tenebrios* a single specimen of *Coniontes robusta* Horn, was picked up high on the side of the canyon. Nearby were found *Elcodes extricata* Say, and *hispilabris* Say. Of *Anaspis rufa* Say, three specimens were taken, but only a single specimen of *Mordella scutellaris* Fab. A single specimen of *Lappus cursor* Csy. and a species of *Lappus* were also taken. *Mylacus saccatus* Lec. was rather common on flowers, while only one *Apion prodive* Lec. and a *Smicronix* sp. were found. High up on the side of the canyon and just above the city several specimens of an *Acanthoscelis* were beaten from flowers.

The popular resort for Salt Lake City people is Saltair, an immense pavilion built on piles in the lake, near its southern extremity, fourteen miles southwest of the city. Excursion trains run out almost every hour during the day with thousands of pleasure seekers, who go to dance and dip in the salt-charged waters of the lake. About a quarter of a mile east of the pa-

vilion is the power house, situated south of the track some five hundred feet. The space between the track and this power house was the scene of my collecting on the afternoons of June 26th, 27th and 29th. It is a flat saline beach with pools of salt water near the railroad embankment, with two rivulets running from a pipe line south to the pools. On the afternoon of the 26th I found *Cicindela hæmorrhagica* Lec. in large numbers along the bed and banks of the westernmost of the rivulets, and extending down to and along the edge of the pools. They were shy and active and were not easily taken on an uneven surface. The Utah forms vary in elytral markings vary slightly from the California coast specimens. None of the black variety, *pacifica*, found with the typical species in California, occur here. Just east of the rivulet I took a single specimen of *Cicindela tenuicincta* Sch. I had had since 1893 a single specimen of this species given me by E. A. Schwarz, who had taken several specimens June 15th at Garfield Beach, then the popular Salt Lake resort. Later in the afternoon I worked over to the other rivulet about three hundred feet east and was gratified to find a half dozen of *tenuicincta*. On the 27th my entire time was devoted to the east rivulet and I found this to be the almost exclusive haunt of *tenuicincta*, *hæmorrhagica* frequenting it only in scattering numbers. It was apparently the height of the season for *tenuicincta*, as two at a time, and occasionally three specimens were taken at a single cast of the net. The males were smaller and more active than the females, and were not averse to fierce encounters to secure favor in the female regard. They apparently fed on a small Dipteron which bred by the millions in the sluggish salt streams and pools. *Tenuicincta* is a strong runner and flyer, but not very shy. It is placed as a variety of the Californian *latesignata* Lec., but from its elytral markings, shape of thorax and elytra and punctuation, I am convinced that it is a separate and distinct species.

I took a single belated specimen of *Cicindela vulgaris* Say, its season having been over for several weeks. Associated with *tenuicincta* and *hæmorrhagica* I took about a dozen specimens of Casey's *echo*. They are shy, active runners and quick flyers, and will escape from the net if possible. It was evidently

late in the season for them, as my friend Browning took them as early as the latter part of April, and in numbers the middle of May. They were found on the salt flats from Saltair to within three or four miles of the city.

Under pieces of lumber and other drift-wood along the beach were found numbers of *Bembidum henshawi*, Haywd. *approximatum* Lec., and *ephippiger* Lec. A single specimen each of *Tachys corax* Lec,, *Pogonus planatus* Horn and *Amara* sp. were found. *Agabus disintegratus* Cr. had been washed ashore by the waves of the lake. A species of *Philonthus* was taken on the lake shore. Under drift on the beach and near the edge of salt pools were found *Dermestes marmoratus* Say and *talpinus* Mann. Three species of *Hister* were taken under drift: *Saprinus lubricus* Lec., *contractus* Csy. and *estriatus* Lec. A few specimens of *Aphodius inquinatus* Hbst. were picked up here and a single specimen of the Tenebrionid genus, *Blapstinus* was taken. *Tanarthus salicola* Lec. was rather common under drift.

On my return a few hours stop at Cheyenne, Wyo., permitted me to collect a short time north of the city limits, but with poor return. *Trichodes ornatus* Say was found on thistles, and *Canthon praticola* Lec. and *Aphodius coloradensis* Horn occurred under cow-chips. *Acmæops pratensis* Laich was found on sunflowers; *Bruchus pauperculus* Lec. was common on thistle flowers.

The Greenhouse Coccidae, II.

By George B. King, Lawrence, Mass.

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Diaspinæ.

34. **Aspidiotus spinosus** Comst. 1883.

This is found only in greenhouses in the United States. Its native home is unknown, and has only been found in greenhouses thus far.

33. **Aspidiotus lataniæ** Sign. 1869.

Syn. *A. greenii* Ckll. *A. cydoniæ* Green. Has been found on *Cycas revoluta* at Savannah, Ga. (W. M. Scott), in New York